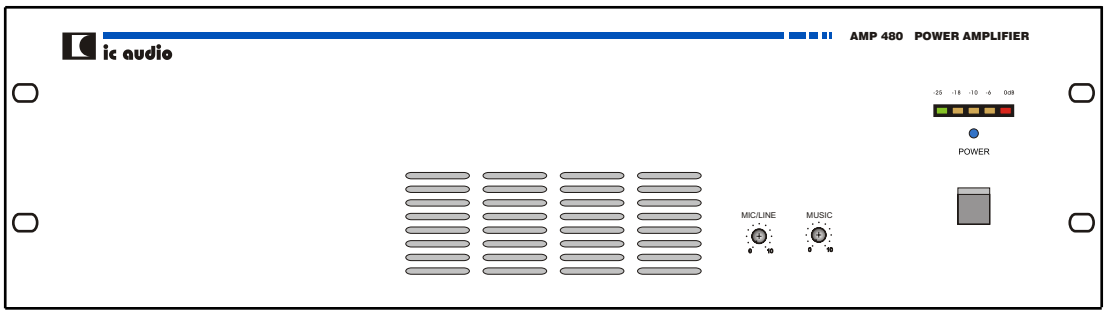
User manual

Power Amplifier AMP 120/240/480

AMP 120 / AMP 240



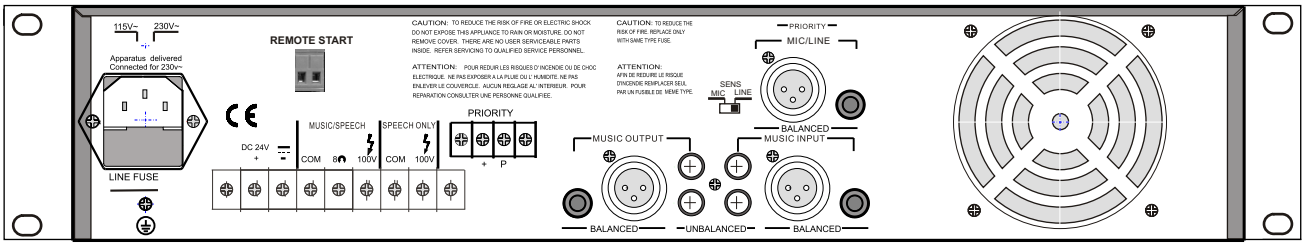
AMP 480

... to make people listen

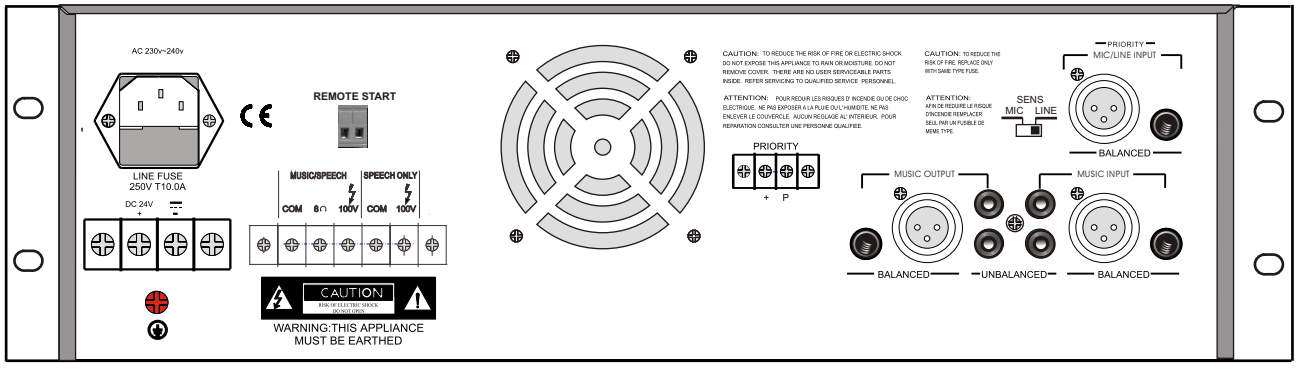
ic audio

Status 02/2006

Power-Amplifier - Rear -


115V~
230V~
Apparatus delivered
Connected for 230V~
LINE FUSE
REMOTE START
DC 24V
MUSIC/SPEECH
SPEECH ONLY
COM
8Ω
100V
COM
100V
PRIORITY
+
P
CAUTION: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT REMOVE COVER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
ATTENTION: POUR REDUIR LES RISQUES D' INCENDIE OU DE CHOC ELECTRIQUE. NE PAS EXPOSER A LA PLUIE OU L' HUMIDITE. NE PAS ENLEVER LE COUVERCLE. AUCUN REGLAGE AL' INTERIEUR. POUR REPARATION CONSULTER UNE PERSONNE QUALIFIEE.
CAUTION: TO REDUCE THE RISK OF FIRE. REPLACE ONLY WITH SAME TYPE FUSE.
ATTENTION: AFIN DE REDUIRE LE RISQUE D'INCENDIE REMPLACER SEUL PAR UN FUSIBLE DE MEME TYPE.
PRIORITY
MIC/LINE
SENS
MIC
LINE
BALANCED
MUSIC INPUT
MUSIC OUTPUT
BALANCED
UNBALANCED
BALANCED

AMP 120 / AMP 240


AC 230v~240v
LINE FUSE
250V T10.0A
DC 24V
REMOTE START
MUSIC/SPEECH
SPEECH ONLY
COM
8Ω
100V
COM
100V
CAUTION
WARNING:THIS APPLIANCE
MUST BE EARTHED
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PRIORITY
MIC/LINE INPUT
SENS
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LINE
BALANCED
MUSIC OUTPUT
MUSIC INPUT
BALANCED
UNBALANCED
BALANCED

AMP 480

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Preparation

- Unpacking
- Safety Instructions
- General Informations
- Rack-Mounting
- Cooling

Unpacking

Please note the unpacking instructions

Safety Instructions

Please note the safety instructions before the connecting the AMP 120/240/480

General Informations

Cooling and instructions for the installation

Rack-Mounting

Informations about the right rack-mounting

Cooling

Please note the ventilation - cooling guidelines

Preparation

Unpacking

Please verify if the following parts were delivered:

- line cord
- mounting foots pre-assembled

Safety instructions

The wires of the main power line have the following colours:

GREEN and YELLOW: (E)
BLUE: (N)
BROWN : (L)

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green and yellow must be connected to the terminal which is marked by the letter E or by the safety earth symbol or coloured green and yellow. The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
If a 13 Amp (B.S.1363) plug or any other type of plug is used,a 5 Amp fuse must be fitted either in the plug or at the distribution board.

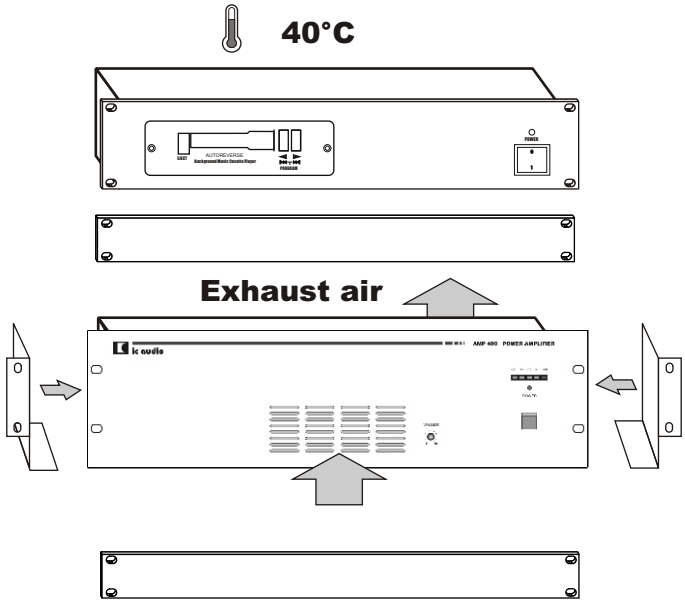
General Informations

- DO NOT run microphone cables near mains, data, telephone or 100V line cables.
- DO NOT run 100V line cables near data, telephone or other low voltage cables.
- DO NOT exceed 90% of the amplifiers output power when using 100V line (speech only).
- DO NOT exceed 70% of the amplifiers output power when using 100V line (high level background music).
- DO NOT use re-entrant horn loudspeakers for background music unless the loudspeaker has been specifically designed for this purpose.
- AVOID jointing the microphone cable, when this is unavoidable make sure a good screened connector is used, e.g. XLR.
- ALWAYS use a balanced or floating low impedance microphone terminating into a balanced input on long microphone cable runs.
- ALWAYS use a mains grade double insulated cable for the loudspeaker cable runs.
- ENSURE that all loudspeakers are in-phase.
- ENSURE that there are no short circuits on the loudspeaker line before connecting to the amplifier.

Preparation

Rack-Mounting

The housing of the Power Amplifier is a 19 inch rack standard construction. Please check if you have enough space for cooling the amplifier. For the optimum mounting in the 19” rack you should fix the power - amplifier in the rack-frame with 4 screws.
Please use for the mounting in the rack-system the support bracket of the rack-producer.



Cooling

The power amplifier AMP 480 pulls fresh air through the small holes in the front sheet and pushes the exhaust air through the long holes in the rear sheet. The amplifier has a temperature controlled cooling. It will be automatically activated by a increased power consumption.

Please make sure that the internal space of the rack system is cooling and you have a room maximum temperature of 40°C..
We recommend to install a cooling system at the rear site of the racksystem to support the transport the exhaust air in the racksystem.

Special Characteristics

- Alarm Function
- Common Function
- Inputs
- Outputs
- Remote Start

Alarm Function

- 2 split output zones
- Music muting
- Priority input

Common Function

- 115V-230V (AMP120/AMP240) Mains Connection
- 230V~240V (AMP480) Mains Connection
- 24V Battery Connection

Inputs

- INPUT
  RCA Jack Socket
  XLR
  1/4” Stereo Socket

Outputs

- 100V - Speaker of the first Zone
- 8 ohm - Speaker of the first Zone
- 100V - Speaker of the second Zone
- OUTPUT
  RCA Jack Socket
  XLR
  1/4” Stereo Socket

Remote Start

Device Functions
- Front side -

- LED - Display
- ON/OFF - Switch
- Controller

LED - Anzeige

Display for the activation

ON/OFF - Switch

Setting - up the Power Amplifier

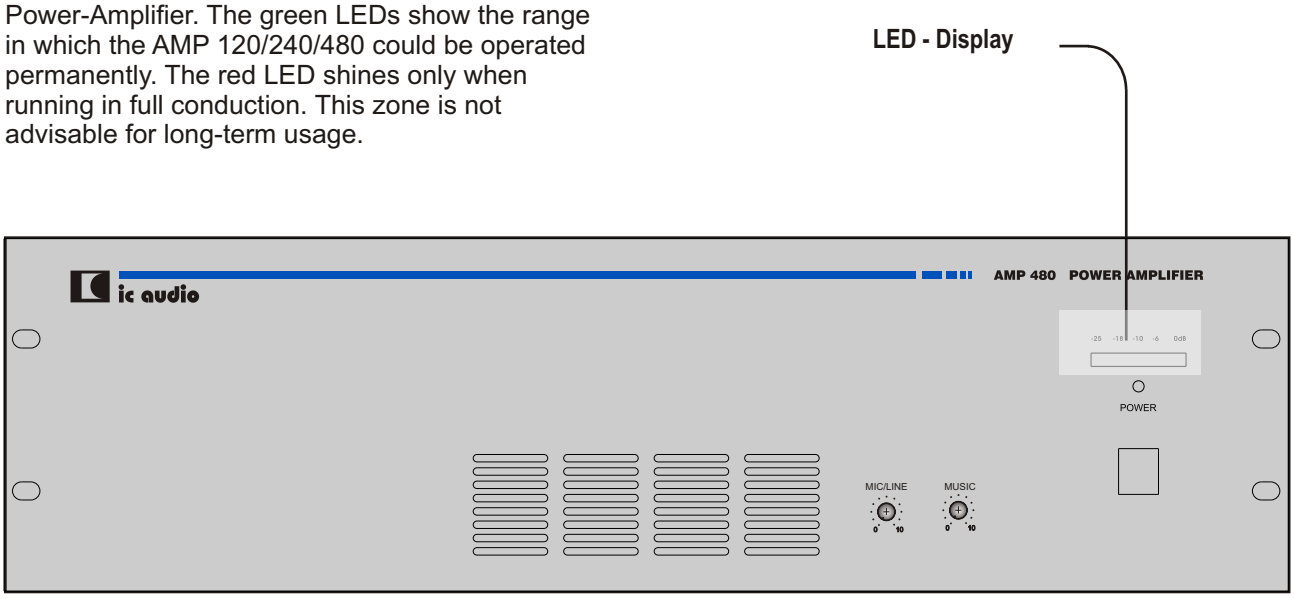
Controller

Control of volume - MIC/LINE
Control of volume - MUSIC

Device Functions
- Front side -

LED - Display

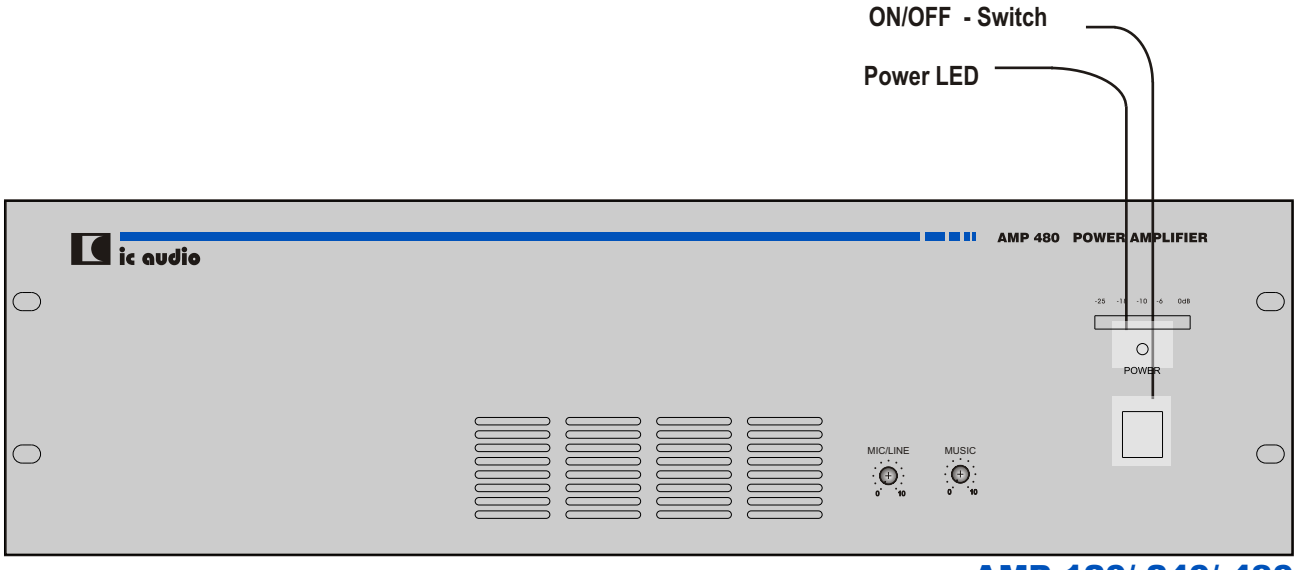
The LED-Display shows the recording level of the Power-Amplifier. The green LEDs show the range in which the AMP 120/240/480 could be operated permanently. The red LED shines only when running in full conduction. This zone is not advisable for long-term usage.



AMP 120/ 240/ 480

ON/OFF - Switch

With this switch you turn on the apparat.
After turning the machine on, the LED is shining blue. Before turning the machine on, the Master controller should be set to a low volume.

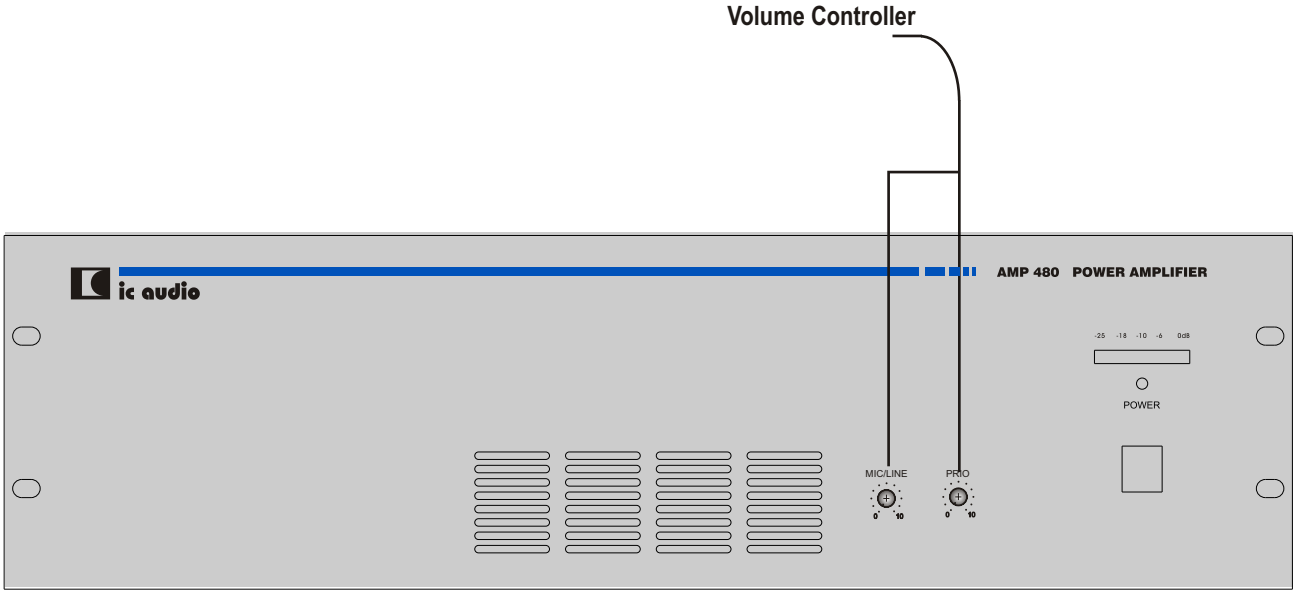


AMP 120/ 240/ 480

Device Functions
- Front side -

MIC/LINE & PRIO- Controller

With the MIC/LINE or the PRIO-Controller you can change the volume of the Power amplifier.



AMP 120/ 240/ 480

Device Functions
- Rear side -

- 115V-230V (AMP 120/ AMP 240) Mains Connection
- 230V~240V (AMP 480) Main Connection
- Input Sensitivity
- 24V Battery Supply
- Remote Start
- 100V/8Ω Speaker Output
- INPUT
- PRIORITY INPUT
- OUTPUT
- Top view of all functions

115V~230V Mains Connection

AMP 120
AMP 240
Selector to adapt the mains connections

230V~240V Mains Connections

AMP 480 Mains Connections

Input Sensitivity

Adjustment of MIC and LINE Sensitvity

24V Battery Supply

Connection to ups

Remote Start

Switch the Amplifier into operation mode over a distance

100V/8Ω Speaker Output

Terminal for 100V/8Ω speakers

INPUT

Connection to the input sources

PRIORITY INPUT

Connection to the microphone

OUTPUT

Connection for priority

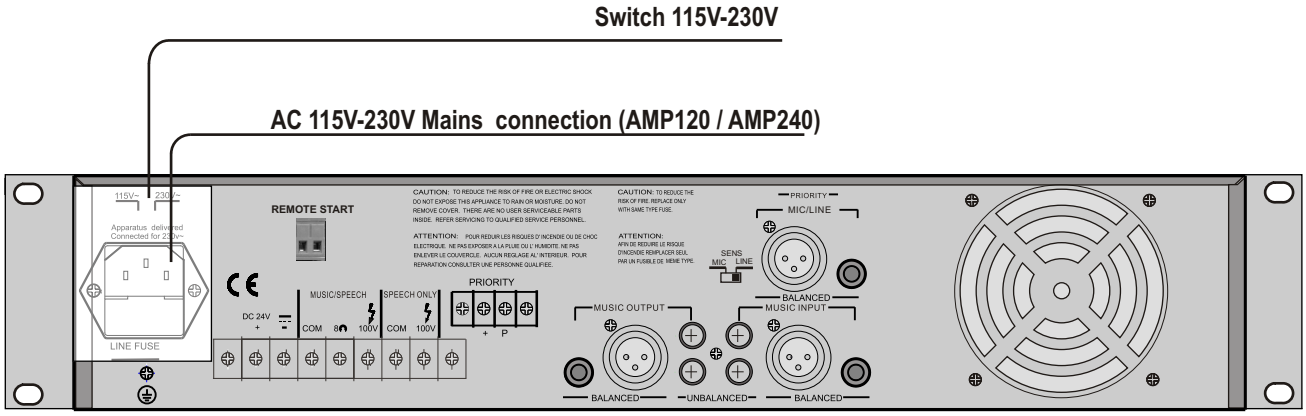
Top view of all functions

Diagramm connected with all possible devices of the power amplifier AMP 120/ 240/ 480

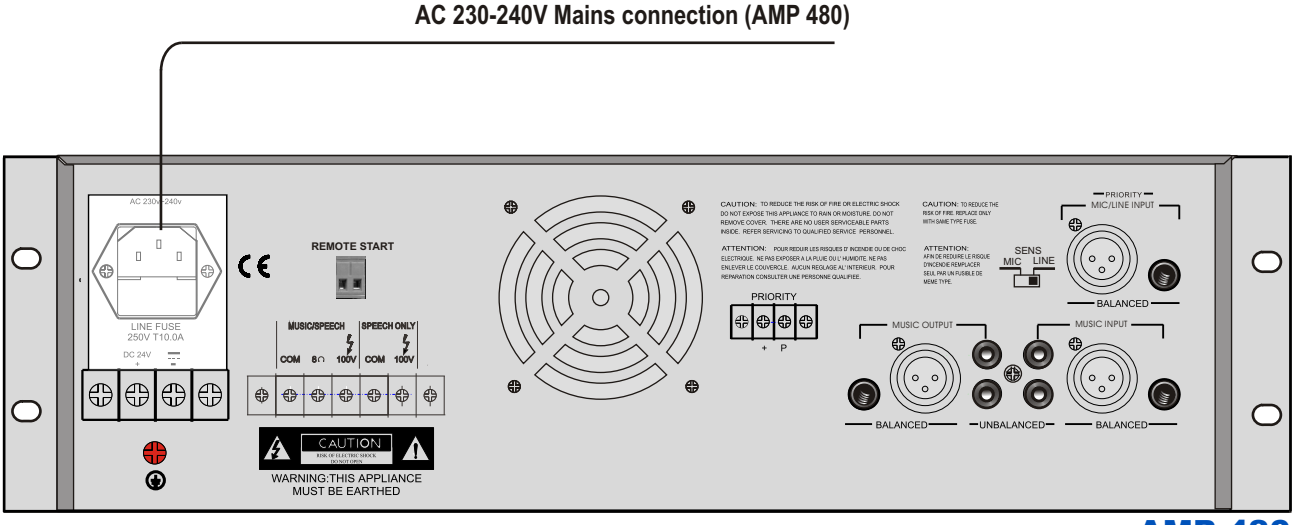
Device Functions
- Rear side -

115V ~ 230V (AMP 120/240)
230V~240V (AMP 480)
Mains Connection

The amplifier is factory set at 230 V(AC) mains voltage.
You can set the switch to 115V if neccessary by pushing the slide switch from right to left.
A before please disconnect the mains cable.
Ensure yourself that the device is set to the local mains voltage before you connect it.



AMP 120 / AMP 240



AMP 480

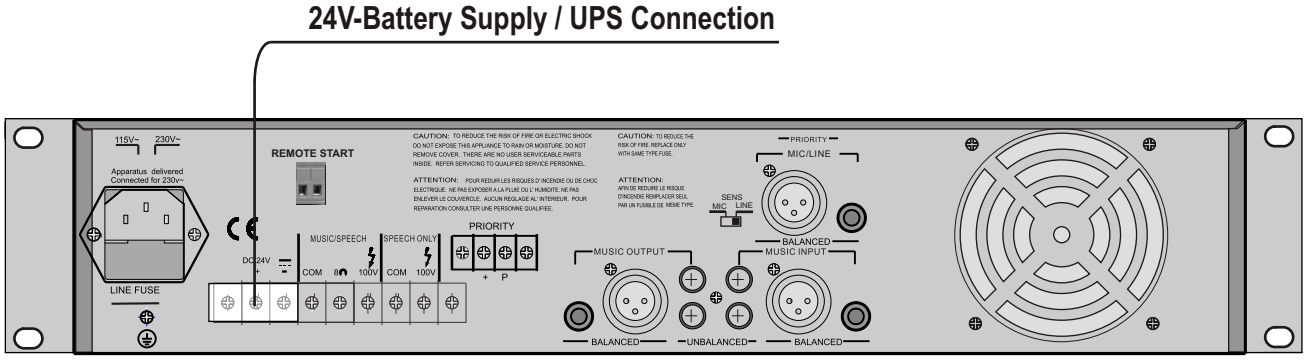
Device Functions
- Rear side -

24V-Battery Supply

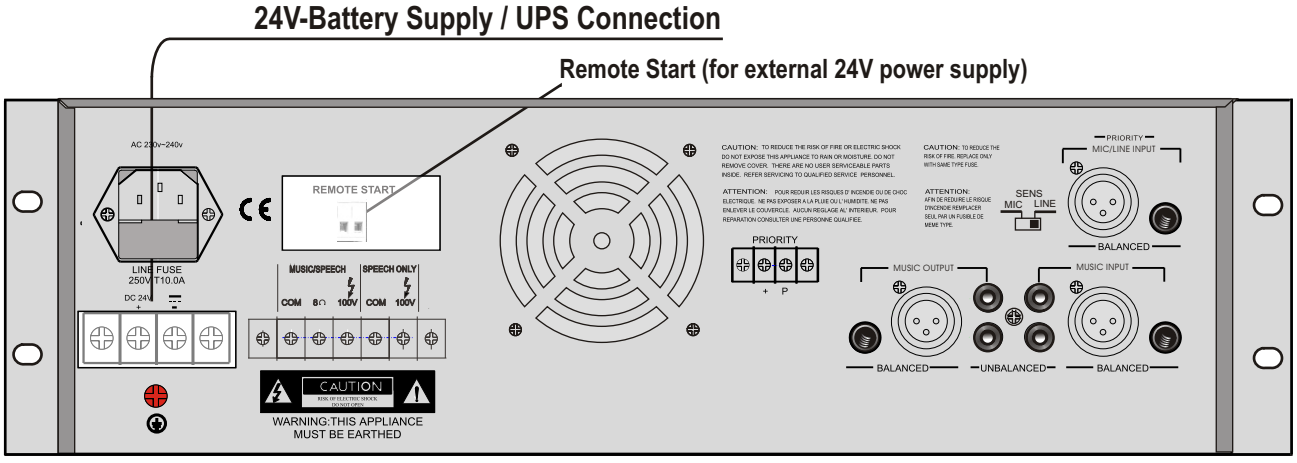
You can also drive the device with 24V(AC).
This is useful in case your mains connection is broken down and you can bypass this with an uninteruptible power supply (UPS).
In this case no manual switching is interruped at the amplifier. As soon the mains connection, the device is automatically driven by external battery power, regardless to the position of the ON/OFF-switch.
Note: The connection cable must be fitted of an in-line fuse quick blow type F15A.

Remote Start

You can start the amplifier via contact from anywhere. An external power supply (24V) activates the amplifier and bridges the main power switch.



AMP 120 / AMP 240



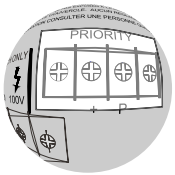
AMP 480

Device Functions
- Rear side -

100V Speaker Output

The power amplifier provides two different speaker zones.

- The **Music/Speech** - Output gives an output at all times reproducing any signal input into the amplifier.
- The **Speech Only** - Output will only work, when the **PRIORITY** terminal is connected.



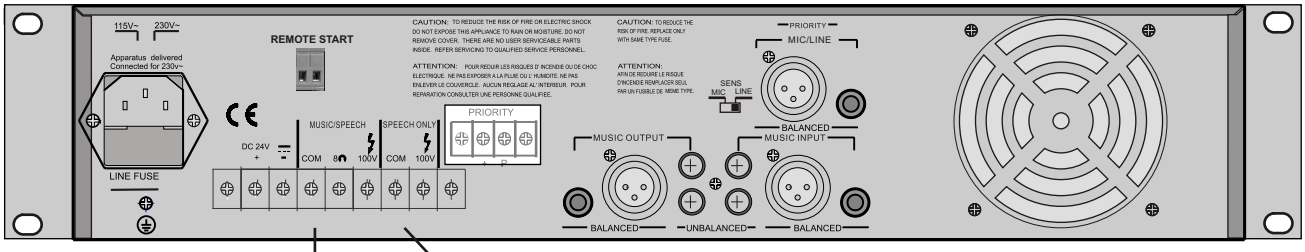
Priority-terminal

8ohm Speaker Output

This output allows connection of standard low impedance speakers. The minimum load impedance must be 8Ω. When two or more speakers are connected, ensure that they are wired in such a way, that the load impedance is between 8Ω and 16Ω.

Disjoined Announcement Zones

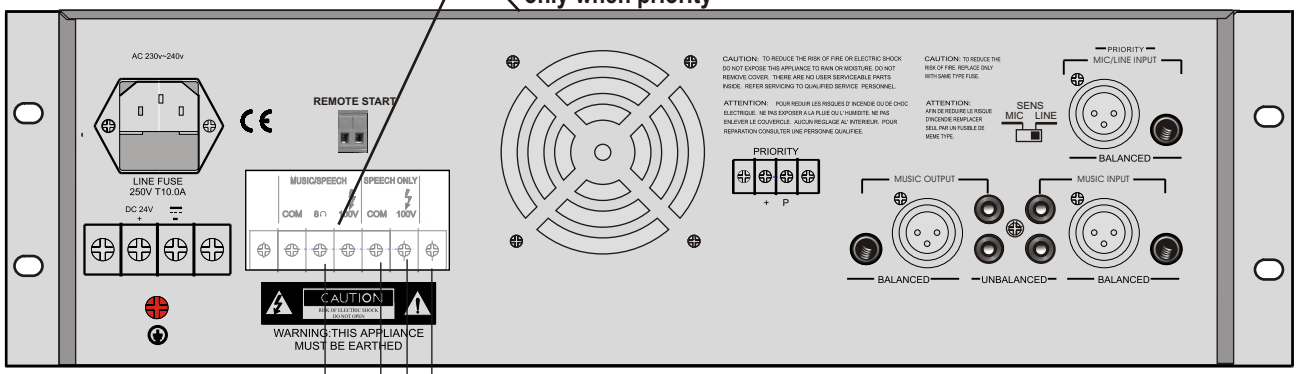
If you want to use the amplifier only temporarily and have the loudspeakerzone muted in normal condition, you can use the **SPEECH/ONLY**-Output. This output is only working when having contact on the priority terminal.



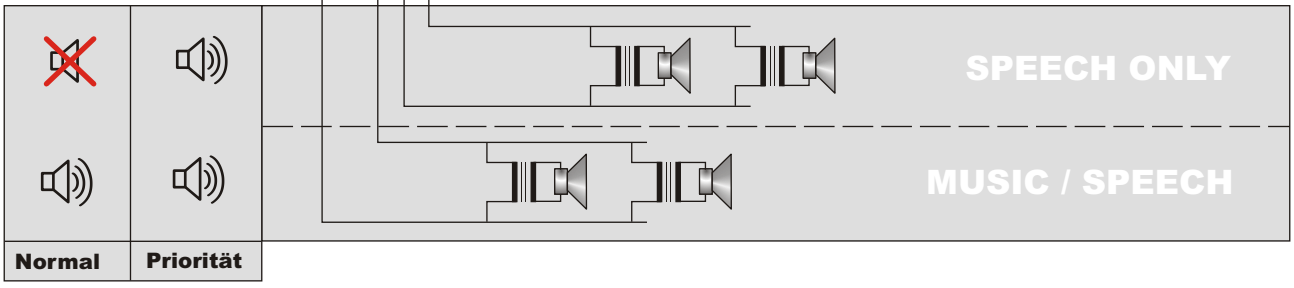
AMP 120 / AMP 240

all the time

only when priority



AMP 480



Device Functions
- Rear side -

INPUT

On the rear side of your amplifier you can connect your particular signal source in the region of input depending on whether it is symmetric or asymmetric.

1/4" Jack Plug 6.35 mm Stereo

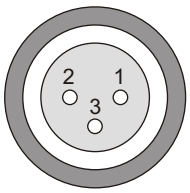
Tip:	HOT	(Signal)
Ring:	COLD	(Signal)
Ground:	GND	

BALANCED

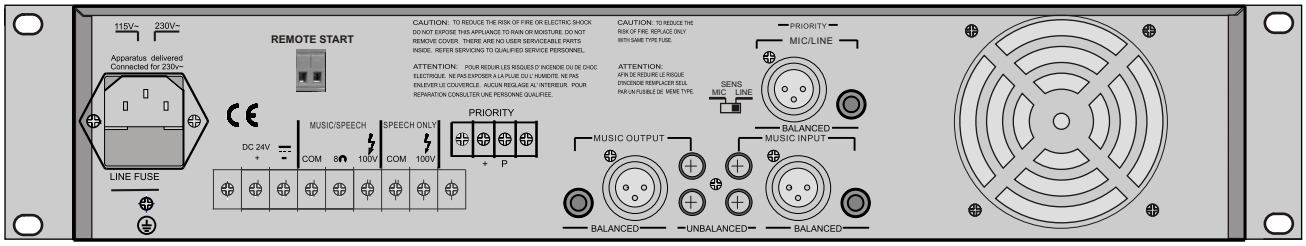
Use the symmetric input to connect your signal source if it is run by a pre-amplifier or a gear with a similar symmetric guided signal source.

XLR-INPUT

1: SCREEN
2: HOT
3: COLD



AMP 120/240(480)


115V~ 230V~
Apparatus delivered Connected for 230V~
LINE FUSE
REMOTE START
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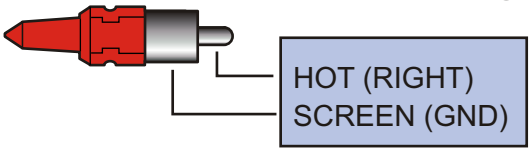
COM 8Ω 100V COM 100V
PRIORITY
MIC/LINE
SENS MIC LINE
BALANCED
MUSIC INPUT
MUSIC OUTPUT
BALANCED UNBALANCED BALANCED

UNBALANCED

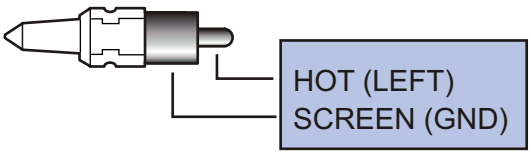
There is a rca jack socket for the left and one for the right channel, which are joined together inside the device.

This allows the connection of a stereo gear or a device, that has no symetric output, without any additional special cable.

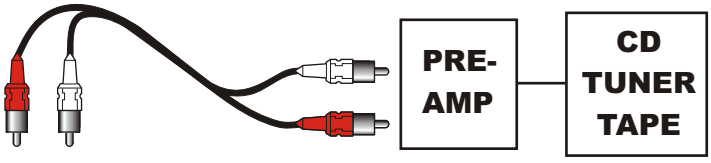
RCA Jack Plug



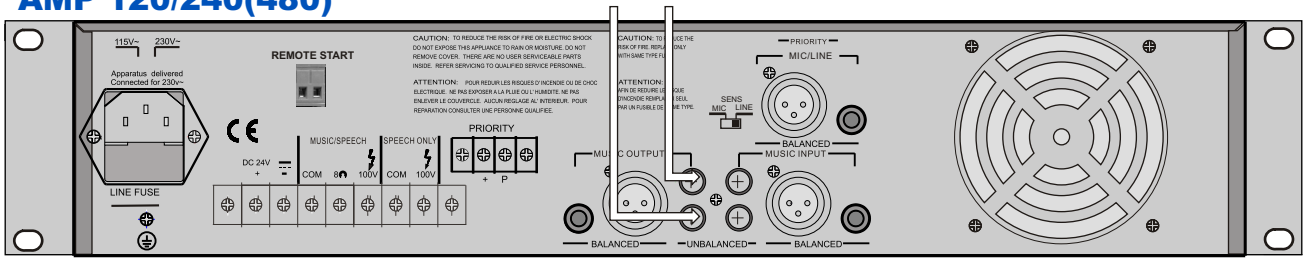
HOT (RIGHT)
SCREEN (GND)



HOT (LEFT)
SCREEN (GND)



AMP 120/240(480)



Device Functions
- Rear side -

MIC/LINE

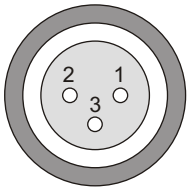
On the rear side of your amplifier you can connect your microphone or any music source in the plug of MIC/LINE (it is symmetric). The input is adjustable.

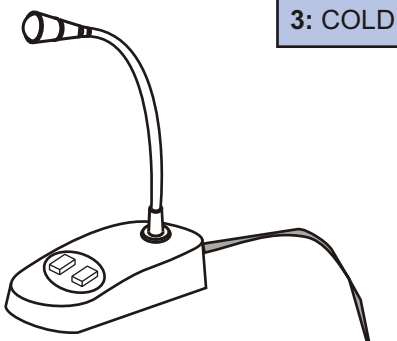
1/4" Jack Plug 6.35 mm Stereo

Tip:	HOT	(Signal)
Ring:	COLD	(Signal)
Ground:	GND	

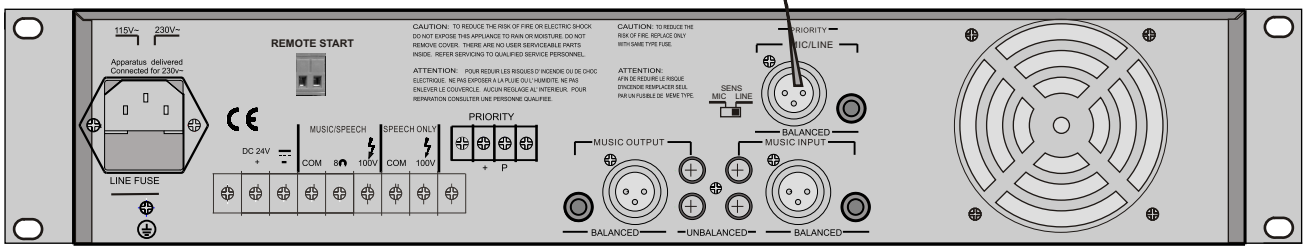
XLR-INPUT

1: SCREEN
2: HOT
3: COLD





AMP 120/240(480)


115V~
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P
SENS. MIC LINE
MIC/LINE
BALANCED
MUSIC OUTPUT
MUSIC INPUT
BALANCED
UNBALANCED
BALANCED

Device Functions
- Rear side -

OUTPUT

By using the output you have the possibility to connect a tape deck or further amplifiers.

1/4" Jack Plug 6.35 mm Stereo

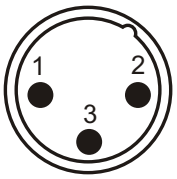
Tip:	HOT	(Signal)
Ring:	COLD	(Signal)
Ground:	GND	

BALANCED

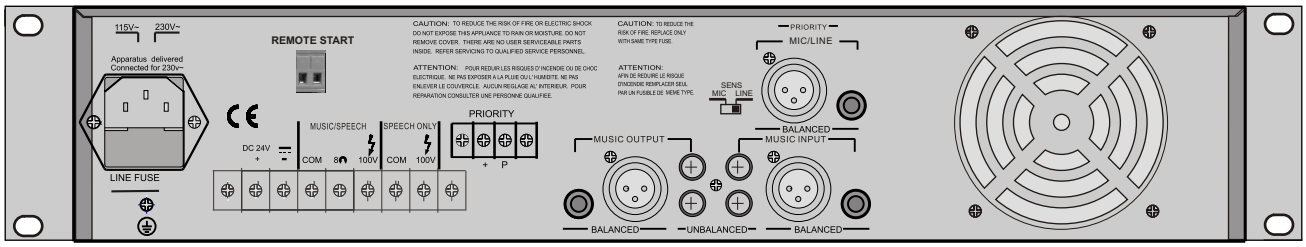
To connect an additional amplifier use the symmetric output provided that your end device has a symmetric input, of course. To do so you can choose either the XLR-socket or the ¼" stereo jack socket.

XLR-OUTPUT

1: SCREEN
2: HOT
3: COLD



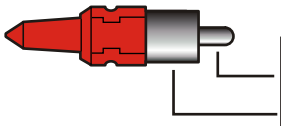
AMP 120/240(480)



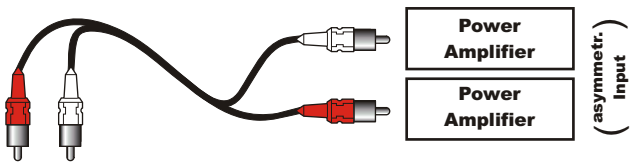
UNBALANCED

To connect an asymmetrical power amplifier you can use the RCA socket output at best. The output is conducted double mono to connect your power amplifier without any additional special cable.

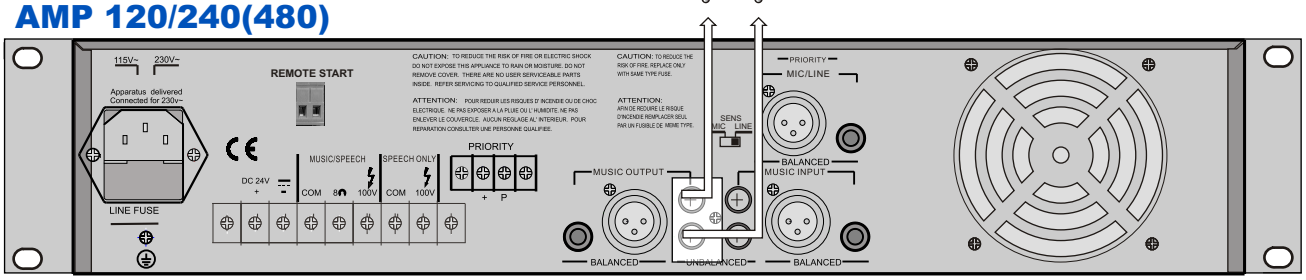
RCA Jack Plug



HOT
SCREEN (GND)

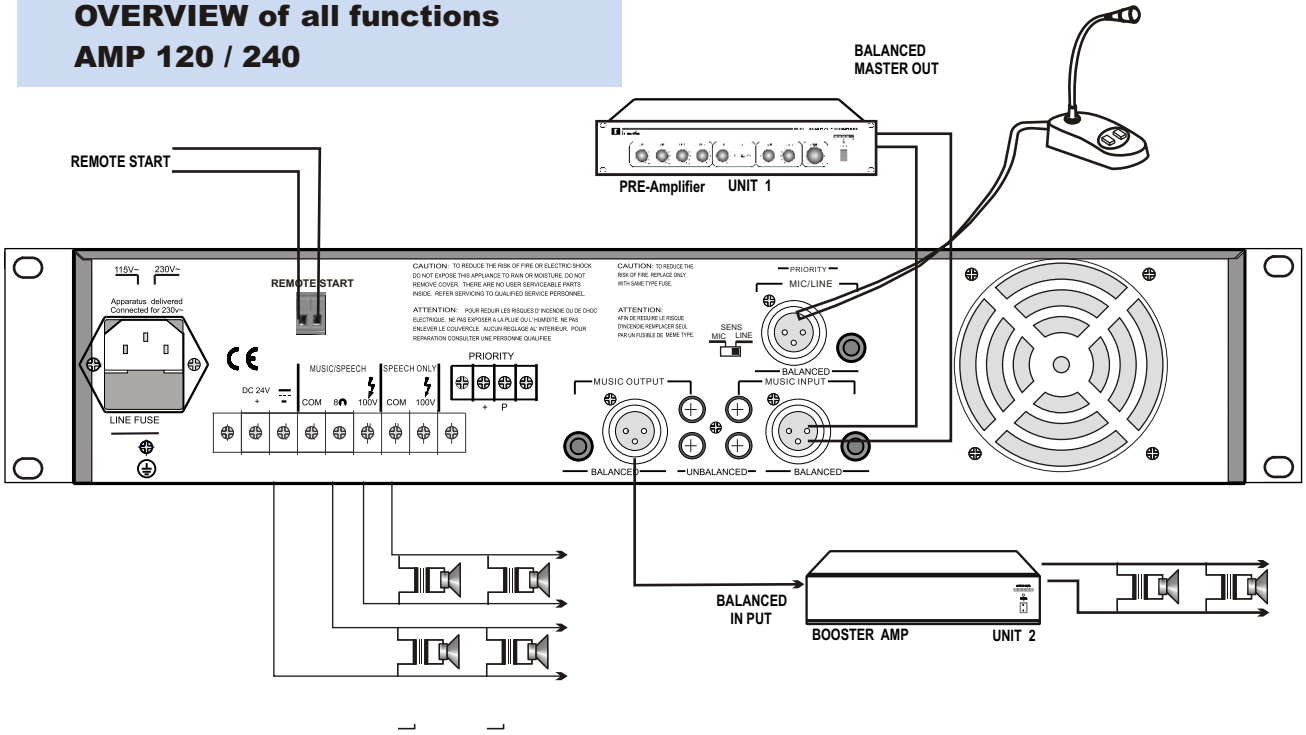


AMP 120/240(480)

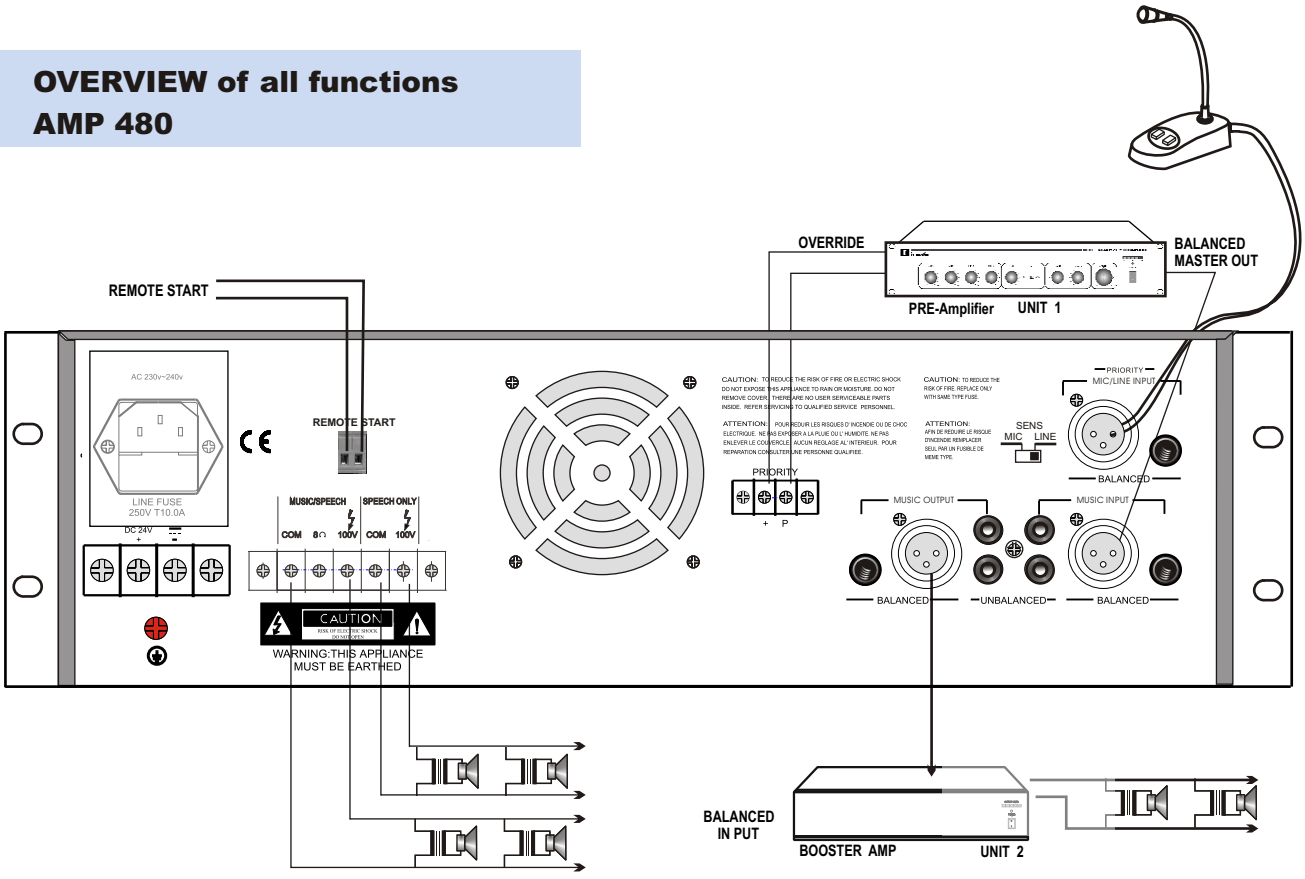


Device Functions
- Rear side -

OVERVIEW of all functions
AMP 120 / 240



OVERVIEW of all functions
AMP 480



Further Information

- Power Amplifier Settings
- Circuit Board Fuse
- Stand alone (default setting)
- Double - or Treble Operating
- Connection Plan
- Technical Specifications
- Block Plugging Diagram
- Index

Power Amplifier Settings

Jumper-Settings

Circuit Board Fuse

Checking the fuse

Stand alone (default setting)

Jumper-Settings

Double - or Treble Operating

Jumper-Settings

Connection Plan

Overview

Technical Specifications

Containing all technical specifications

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Content in alphabetical order.

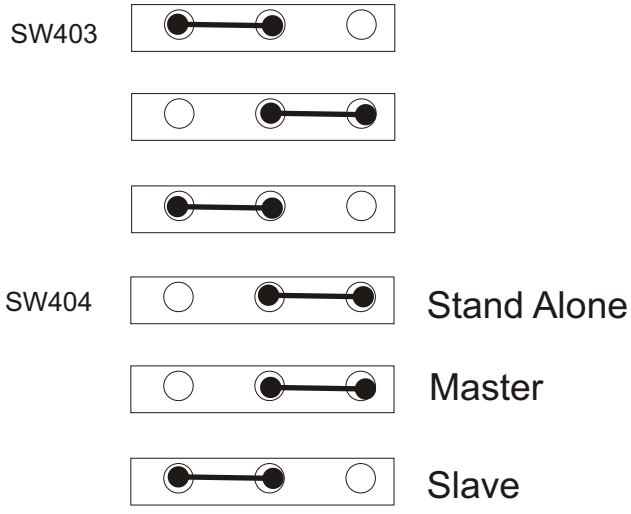
Further Information

Power amplifier - Settings

AMP 120/240/480

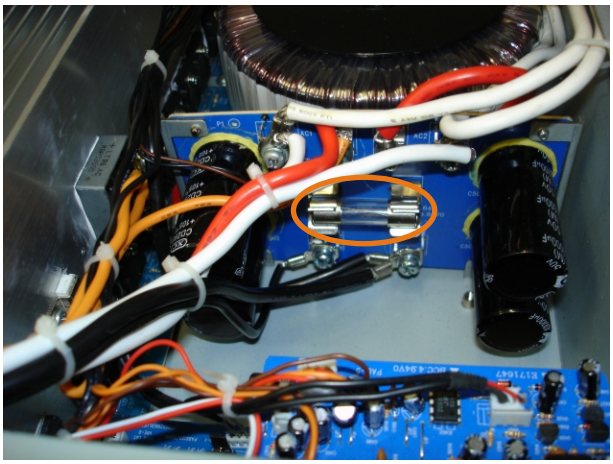
Power amplifier-settings

The power amplifier have three different input sensitivity settings. You can select the sensitivity with the jumper SW 401.
(1V, 500mV und 100mV)



Circuit Board Fuse

If the amplifier isn't working, please check the outside fuse on the rear panel or the inside one.



Stand alone (default setting)

For the stand alone operation with the power amplifier, select the jumper (SW403 and SW404) of the print board to the "STAND ALONE" Position.

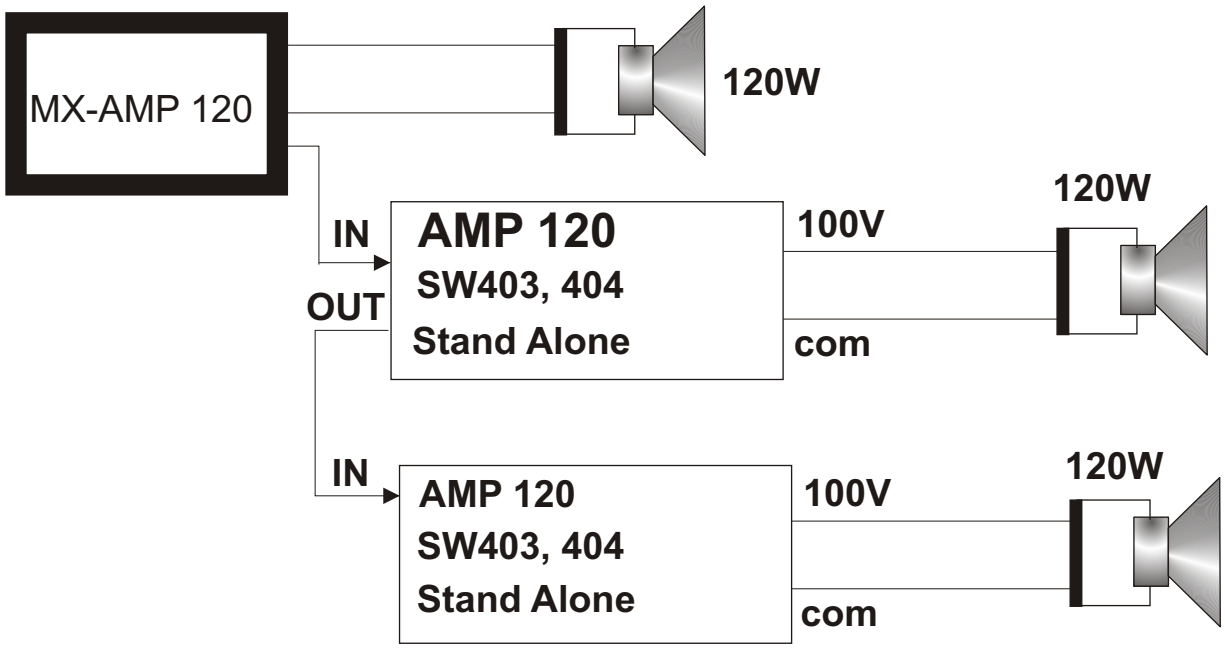
double - oder treble operating

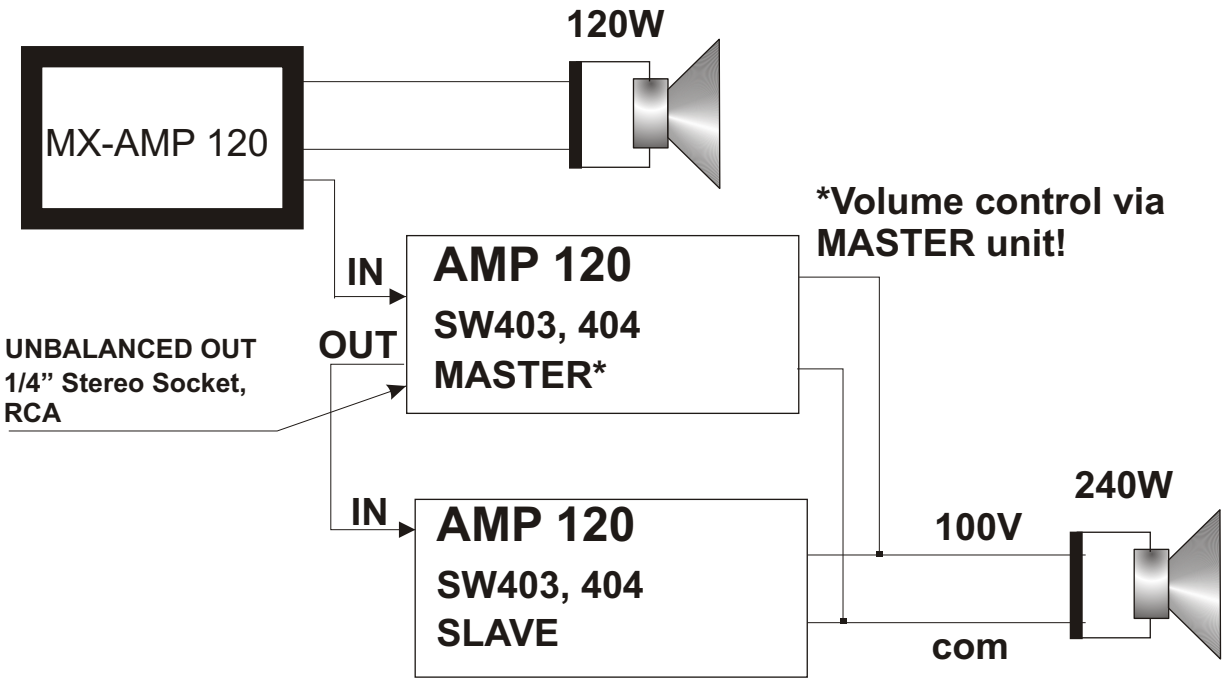
For the double or treble operation define power amplifier as an MASTER - UNIT. Select the jumper to the MASTER position (look at the draft). All further power amplifiers will adjust with the jumper "SLAVE". (Look at the draft)

Further Information

Connection plan

AMP 120 (240/480)





Further Information

Technical Specifications AMP 120 / 240

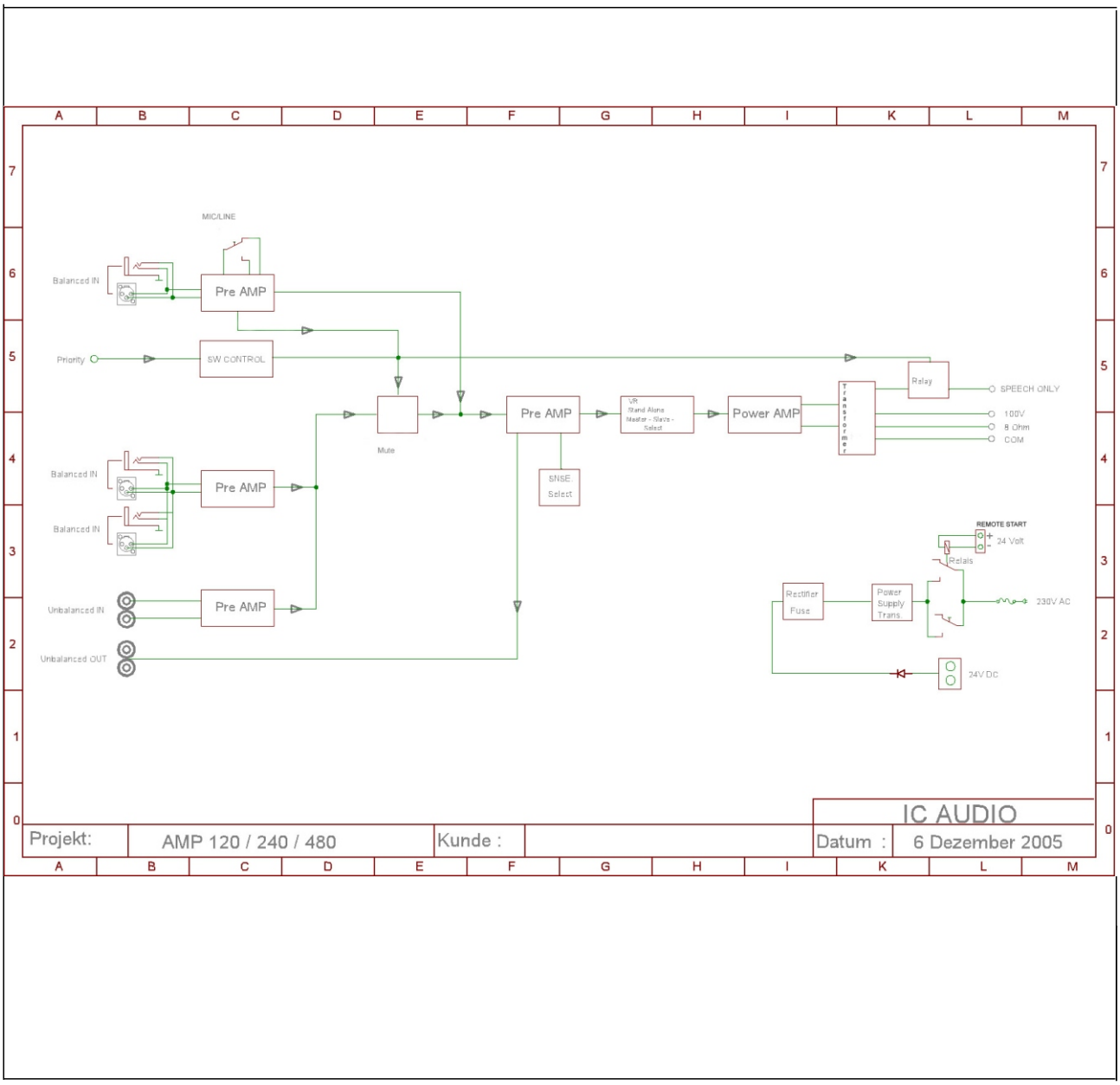
Type		TWO ZONE Power Amplifier	
Model		AMP 120	AMP 240
Supply	Mains Voltage	AC 115V / 230V , 50 / 60HZ ± 10% switchable	
	Battery Voltage	DC 24V (MAX 10% deviation)	
Output power	Max :	180W	360W
	Rated :	120W	240W
Outputs		Speaker outputs: Music/speech: 8ohm,100V(70V/100V Selectable) Speech: 100V (70V/100V Selectable) Line output: 1V, 600ohm	
Inputs		Line input : 1V, 47K ohm / mic 1mV 250 ohm	
Frequency response		50HZ ~ 20KHZ ± 3dB	
Total harmonic distortion		Less than 1% at 1KHZ,rated power.	
Signal to noise ratio		80dB below rated power.	
Controls		Master volume control. AC 115V / 230V Voltage selector switch.	
Indicators		Power indicator (LED),output level indicators (5 LEDS)	
AC power consumption		400 watts	760 watts
DC power consumption		192 watts	384 watts
Dimensions (H x W x D)		88 x 430 x 300 mm	
Weight		Approx 10.0kg	Approx 13.0kg
Color		Black	
Mounting options		Table top or 19” rack mountable.	

Technical Specification AMP 480

Type		TWO ZONE Power Amplifier
Model		AMP 480
Supply	Mains Voltage	230V , 50 / 60HZ ± 10% switchable
	Battery Voltage	DC 24V (MAX 10% deviation)
Output power	Max :	720W
	Rated :	480W
Outputs		Speaker outputs: Music/speech: 8ohm,100V(70V/100V Selectable) Speech: 100V (70V/100V Selectable) Line output: 1V, 600ohm
Inputs		Line input : 1V, 47Kohm / mic 1mV 250 ohm
Frequency response		50HZ ~ 20KHZ ± 3dB
Total harmonic distortion		Less than 1% at 1KHZ,rated power.
Signal to noise ratio		80dB below rated power.
Controls		Master volume control. 230V Voltage selector switch.
Indicators		Power indicator (LED),output level indicators (5 LEDS)
AC power consumption		1100 watts
DC power consumption		768 watts
Dimentions (H x W x D)		88 x 430 x 385 mm
Weight		Approx 18.0kg
Color		Black
Mounting options		19” rack mountable.

Further Information

Block Plugging Diagram



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